

Lifocork[®]

Cork Compounds



Combining the sustainability, low weight & feel of natural cork with the processability of plastics...

The main quantity of natural cork which is harvested today is used as pressed cork or mixed with PU or rubber. The processing of this kind of cork can be expensive and require a lot of energy.

We have developed a special manufacturing method to combine natural cork with thermoplastic raw materials. Meaning Lifocork can be processed using typical thermoplastic processing methods such as injection moulding, extrusion or thermoforming.

Please use this guide as an introduction to the Lifocork range and [contact us](#) to discuss your specific requirements.

A RENEWABLE RAW MATERIAL

Cork is a natural product which comes from the bark of the cork oak tree. The removal of the bark does not harm the trees and the bark is only harvested after the first 20 years of growth.

The removal stimulates a steady regeneration of the bark. Each cork tree provides on average 16 harvests over its 150-200 year lifespan.

Cork itself has a cell-like structure which is light and highly compressible. It is used in construction, sports, industrial and household applications.



TYPICAL PROPERTIES

- Hardness 50 to 98 Shore A
- Low density
- Different base materials
- UV resistant
- Resistant against sweat and hand cream
- Resistant against moisture and water
- Non-slip
- Soft touch surface
- Natural cork optics
- Different colors possible
- Easy processing through injection moulding, extrusion or thermoforming
- Good abrasion
- Can be foamed with blowing agents
- Grindable

APPLICATIONS

Lifocork is suitable for a wide range of applications, with new ideas being introduced everyday. Its comfortable feel and non-slip texture make it a good choice for handles and grips, where it has been used in sports equipment, tools and household items. Lifocork has also been used to manufacture bowls, trays, boxes and plant pots and toys.

In 2K applications, the material can be overmoulded or co-extruded onto TPE, PP or PE. Allowing for sophisticated designs and enhancing consumer appeal with the integration of a soft-touch area.

Plates, belts, endless tapes and tech profiles can be manufactured from Lifocork via the extrusion process.



FOAMED LIFOCORK

It's also possible to make foamed parts from Lifocork.

This offers materials with very low densities (as low as 0.45g/cm^3) and therefore gives lightweight parts.

The foamed Lifocork also gives a damping, shock absorbent effect, ideal for orthopaedic shoe lifts and inserts.

COLOURED LIFOCORK

We offer coloured Lifocork compounds.

Lifocork compounds can easily be coloured using a standard PE masterbatch, opening up even more design possibilities.



A SELECTION OF LIFOCORK GRADES

Grade	Hardness ¹ Shore A	Base Material	Properties
Test Method	ISO 868		
Lifocork UV 451012	50	TPE	Special soft grades
Lifocork UV 701021-2	70	TPE	Soft-touch grips, fulfills DIN ISO 10993-5 for skin contact
Lifocork TV 801016-5	80	TPE	Soft-touch grips, modified for high bonding to TPE, PP & PE. UV resistant
Lifocork TO 951000	95	TPE	Grips in one or two component moulding. Easy to process. UV resistant
Lifocork TO 751004-4	85	EVA	For orthopaedic use, glueable, easy to thermoform
Lifocork TV 751014	75	TPE	For orthopaedic use, glueable, grindable, high flexibility

¹ After 15 seconds

PROCESSING

Lifocork can be processed using thermoplastic processing methods.

In injection moulding it can be processed using standard equipment. Lifocork can also be processed in two-component moulding. It has an excellent bond to TPE, PP and PE.

Other processing methods include extrusion or thermoforming with a double belt press.

Cork is a natural product, which contains a high level of moisture and dyestuff. Through our compounding process a lot of the moisture is extracted. However, there still remains a residue of moisture in the Lifocork compound. As cork absorbs moisture from the air, the Lifocork compound should be pre-dried before processing. For best results we recommend drying Lifocork for 2-3 hours at 70°C in a dry air dryer.

INJECTION MOULDING

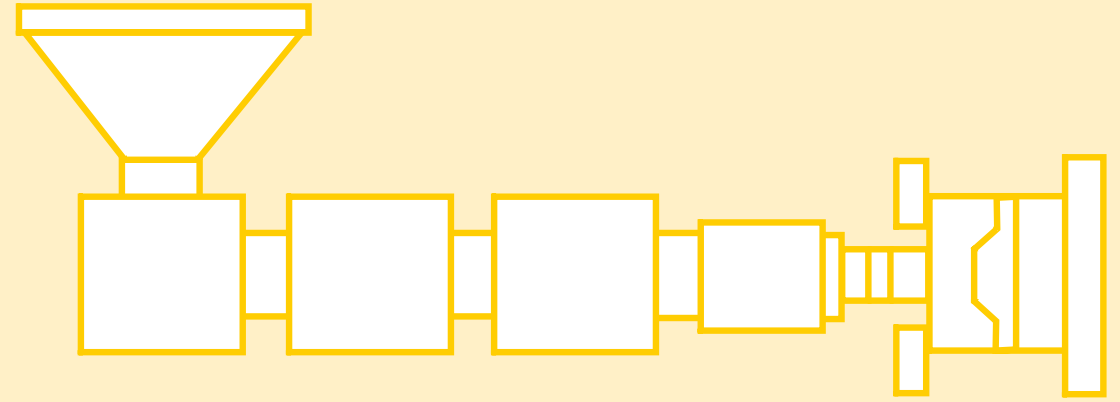
Before starting we recommend you clean your machine with a LDPE, EVA or a low melting point PP Copolymer. We recommend using a slow screw speed, the lowest dynamic pressure and slow injection speed.

If the Lifocork is injected slowly it will keep its natural colour. The mould should be filled only with the injection moulding pressure, so that the mould is properly filled. Otherwise the water is squeezed out of the cork and cause the material to become dark and burned. If the Lifocork compounds are processed in series the tools should be protected against corrosion. During the injection process water is released which can effect the surface of the mould. The tools should be cleaned thoroughly after use.

For best results all gates, hot running systems, nozzles should have a diameter larger than 1 mm (1.2mm is better). The wall thickness should be at least 1 mm, if you produce larger parts at least 2 mm.

INJECTION MOULDING

Injection Speed:	Slow
Injection Pressure:	Slow
Back Pressure:	Low
Holding Pressure:	Sufficient to pack the mould
Cooling:	Can be demoulded when parts have cooled sufficiently



Recommended start-up temperatures °C

150

160

170

175

WANT TO LEARN MORE?

Contact us at

lifocork@hexpolTPE.com

or visit

www.hexpoltpc.com/en/lifocork.htm

A few of our other product ranges →

Dryflex Green : Biobased TPE compounds

Dryflex SE : TPEs for injection moulding

Dryflex Circular : TPE containing recyclate

ABOUT HEXPOL TPE



HEXPOL TPE is a global compounding group specialising in Thermoplastic Elastomers (TPE) for key industries such as consumer, medical, packaging, automotive and construction. We have a core belief in being the easiest company to do business with. That's why we invest in our operations, teams and technologies to offer our customers the most reliable, relevant and cost-effective TPE compounds, backed by highly responsive support, technical know-how and application expertise. Our teams work together, across boundaries, applying the knowledge, experience and talents we have all around the world to meet the needs of our customers.

LEGACY NAMES: From 2017, the ELASTO and Müller Kunststoffe businesses were renamed to HEXPOL TPE.

All the information about chemical and physical properties consists of values measured in tests on injection moulded test specimens. We provide written and illustrated advice in good faith. This should only be regarded as being advisory and does not absolve the customers from doing their own full-scale tests to determine the suitability of the material for the intended applications. You assume all risk and liability arising from your use of the information and/or use or handling of any product. Figures are indicative and can vary depending on the specific grade selected and the production site. HEXPOL TPE makes no representations, guarantees, or warranties of any kind with respect to the information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. We retain the right to make changes without prior notice. HEXPOL TPE makes no warranties or guarantees, express or implied, respecting suitability of HEXPOL TPE's products for your process or end-use application. Lifocork® is a registered trademark, property of the HEXPOL TPE group of companies.